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11 and bid\$	0

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<u>DB Name</u>	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
JPAB,EPAB,DWPI,TDBD	11 and bid\$	0	<u>L10</u>
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JPAB,EPAB,DWPI,TDBD	16 and bid\$	0	<u>L8</u>
USPT	16 and bid\$	2	<u>L7</u>
USPT	5987454.pn. or 5862223.pn.	2	<u>L6</u>
USPT	14 and (expert\$ with match\$)	9	<u>L5</u>
USPT	6108635.pn. or 6058387.pn. or 5987454.pn. or 5862223.pn. or 5848396.pn. or 570404.pn. or 5630025.pn. or 5617514.pn. or 5259066.pn. or 5225978.pn.	9	<u>L4</u>
USPT	12 and @ad<=19980707	11	<u>L3</u>
USPT	11 and bid\$	12	<u>L2</u>
USPT	computer and database and (expert\$ with match\$)	164	<u>L1</u>

WEST**End of Result Set****Generate Collection**

L7: Entry 2 of 2

File: USPT

Jan 19, 1999

DOCUMENT-IDENTIFIER: US 5862223 A

TITLE: Method and apparatus for a cryptographically-assisted commercial network system designed to facilitate and support expert-based commerce

BSPR:

Another object of the present invention is to provide a way for clients to have experts evaluate their work. Another object of the present invention allows students to be graded by multiple evaluators. Another object of the present invention is to allow both the client and the expert to remain anonymous while practicing the invention. Another object of the present invention is to allow clients and experts to verify information that is accessible or communicated as part of practicing the invention. Another object of the present invention is to verify the client's or expert's identity and the client's ability to pay for services. Another object of the present invention is to allow for impartial dispute resolution regarding any dispute which arises from the practice of the invention. Another object of the present invention is to allow the expert to be paid for services immediately upon delivery of work contracted for while practicing the invention. Yet another object of the present invention is the ability to verify that communications occurring while practicing the invention have not been tampered with or altered during communication. A still further object of the present invention is to provide a marketplace for any party practicing the invention to either bid on services or to reach an agreement regarding a transaction for such services as the parties may desire. Another object of the present invention is to provide a method for clients to verify the quality of expert answers. Yet another object of the present invention is to provide access to the Exchange without the need for proprietary software.

BSPR:

In one embodiment of this invention, a person ("end user") who requires information from an expert accesses an on-line Exchange located at a remote server. The Exchange verifies the user's identification and account status and allows the user to produce a job request suitable for consideration by an expert. The job request includes a full description of the job to be performed, a range of money the user is willing to spend, how quickly he needs the answer, and any other information necessary to respond to the request. For example, a typical job request might be: "Attached is the text of a letter which may have been written by Catherine the Great. No later than 2:00 PM, Saturday, Jul. 20, 1996 I would like an expert in Russian history to review the letter and provide me with a detailed opinion of at least 1,000 words on whether Catherine the Great was indeed the author, and if not, who is most likely to have been the author." The user can also select "Russian history" from a "subject menu", "fifty to one hundred dollars" from the "price menu", "2:00 PM, Saturday, Jul. 20, 1996" from the "time to complete menu" and "5:00 PM, Friday, Jul. 12, 1996" from the "deadline for submitting bids" menu. The user attaches the text of the letter and e-mails the job request to the Exchange which begins the process of locating a qualified expert.

BSPR:

Once the job request has been sent, the end user waits to receive any bids by the bid deadline specified. As soon as the central controller at the Exchange receives the complete job request, it first searches its proprietary database of Russian history experts. Then, if additional experts are likely to be needed, it activates a search program designed to access and interrogate outside databases of known experts who might be qualified to handle the job

request. This outside database search could be done using conventional paper-based directories (such as the American Medical Association's American Medical Directory which lists the doctor's educational background and any board-certified specialty), or with electronic directories available online (such as the Martindale-Hubbell Law Directory which contains entries for lawyers and law firms in the United States as well as over 140 foreign countries). In the example above, college course catalogs can be searched for an authority on late 18th century Russia, with special knowledge of Catherine the Great. Once one or more suitable experts are identified, the Exchange sends a message to the expert (e-mail, fax, beeper, phone, etc.) briefly describing the job request and asking the expert if he might be willing to consider bidding on the assignment by 5:00 PM, Friday, Jul. 12, 1996. The name of the client is not revealed. If the expert answers that he might be interested, and the user has placed no pre-qualification restrictions on who can see the job request, the full text of the job request without the user's name or address is forwarded to the expert with a request that he respond with a bid by the bid deadline. Alternatively, the user is notified of each expert's interest and is offered the opportunity to review the expert's qualifications prior to the Exchange sending out the full job request.

BSPR:

If, after reviewing the full job request, an expert is willing to do the job, he submits a formal offer of service, essentially his bid for the job. This bid may also include his particular qualifications for the job and any special conditions which he might require be incorporated before accepting the assignment. These bids are then forwarded to the user who can then decide which experts, if any, he will hire. The end user may also simply have the Exchange select the first bid that fulfills the qualifications for the job. Alternatively, no bid may be acceptable and he may want to continue to negotiate with certain experts. In an effort to minimize off-exchange contact prior to a deal being reached, the user will typically know the experts' names but not their locations or phone numbers. (If a user ultimately does not select a candidate using the Exchange, and does not subsequently use the Exchange for a similar job within a certain number of days, he may be charged a usage fee as a percentage of the total job value or on a fixed fee basis.) The user sends a binding acceptance notification to the Exchange for each expert to be hired. The Exchange in turn notifies the expert(s) that they have been hired and the terms under which the offer of service was accepted.

BSPR:

Once an expert is accepted, he is added to the expert database maintained by the Exchange. When an expert is available to answer a question, he logs-in to the Exchange and provides his expert ID. The Exchange then routes any pertinent open job requests to the expert for consideration. When the expert indicates interest in an open job request, he notifies the Exchange and is provided the full request. The expert then formulates his bid, if any, digitally signs it, and e-mails it to the Exchange. Alternatively, the expert may remain off-line, with the Exchange notifying him via mail, fax, beeper, or telephone that there is an open job request for his consideration.

BSPR:

Authentication of the user and the expert is also a benefit of the present invention. Using cryptography and biometrics, the Exchange can authenticate the identity of the parties. The algorithms used can also verify that the expert response and ID have not been tampered with after the response has been sent to the Exchange. Digital signatures, for example, provide both message integrity and authentication of authorship. The present invention also allows for a viable "expert service market" by enabling both users and experts to bid on services. An electronic auction can be implemented which allows users to bid for an expert's time, experts to bid on user requests, and users and experts to negotiate on the price of services. Such services could be sold on a prepaid basis where the expert agreed to provide a certain number of hours of real-time consulting where such consulting was performed through a connection monitored by the Exchange for purposes of accounting and tracking.

DEPR:

Expert database 255 maintains data on the experts, including name, address, private key information, email addresses, physical addresses, payment preferences, rates, availability standards, voice mail addresses, expert

profile 155, biographies, past expert answers 130, and respective subject areas of expertise. Expert profile 155 includes automatic bid amounts, minimum completion times, acceptable price ranges, and the like. Expert database 255 includes rating information generated by end users, as well as expert address 145, which is used to direct communications to the expert. Expert address 145 comprises a phone number, web page URL, bulletin board address, pager number, telephone number, email address, voice mail address, facsimile number, or any other way to contact the expert. Expert database 255 also stores all bid requests 160 and bid offers 165 generated by the expert. Advertising data generated by the expert may also be stored in this database.

DEPR:

End user database 260 maintains data on end users, such as name, address, phone number, ID number, email address, payment preferences, past system usage, private key information, etc. It also contains end user profile 150, which stores preferences for required response time, acceptable qualification levels, acceptable price levels, automatic bid amounts, and the like. It also contains copies of each bid request 160 and bid offer 165 generated by the end user.

DEPR:

In order to facilitate cryptographic functions, there is cryptographic key database 290 which stores both symmetric and asymmetric keys. These keys are used by cryptographic processor 210 for encrypting and decrypting all end user requests 120 and expert answers 130, as well as message traffic such as bid amounts or offers and acceptances of work. Audit database 295 stores transactional information that may be retrieved for later analysis. Text data from chat rooms might be stored in this database, for example, so that end user complaints about service can be independently verified.

DEPR:

After being stored at step 700, end user request 120 may go through a series of processing steps. One step, if necessary, is language translation, either creating a standard language that all end user requests 120 must be written in, or translating to the language most appropriate for the experts to which it will be sent. This translation is provided by language experts registered with the system, or by automatic translation software such as Systran Professional, manufactured by Systran Software. Twelve bidirectional language combinations are available, including English to/from French, Italian, German, Spanish, Portuguese, and Japanese. Another step, if necessary, is to edit for spelling or grammatical errors. End user request 120 might also be reviewed for clarity. Any end user request 120 with an unclear question would be returned to the end user for clarification.

DEPR:

In one embodiment, a flat fee is charged for every end user request 120 submitted, with the end user paying the fee in addition to reimbursing the expert. There could also be flat fees that would cover any number of transactions over a given period of time, allowing end users to subscribe to the service much as they would subscribe to a newspaper. In another embodiment, central controller 200 creates a bid/ask spread in which end users are charged a premium over the cost of the expert. If an expert requires fifty dollars for an expert answer 130, central controller 200 may mark this up by 20%, charging the end user sixty dollars. Experts may be retained by central controller 200 on a salaried basis, with revenues collected from end users paying those salaries. In another embodiment, advertisers pay to have messages included in end user request 120, expert answer 130, or web pages of central controller 200. Advertising revenues then partially or fully offset the cost of expert answer 130. Payments to experts for expert answers 130 produced may also be reduced in exchange for the expert's advertising message displayed at central controller 200 or in expert answer 130. Alternatively, the method and apparatus of the present invention may be employed without a payment feature.

DEPR:

In one embodiment of the present invention, a protocol is described in which end users select the experts to which end user request 120 is transmitted. Additionally, bidding and negotiating protocols are described which allow end users to select the most appropriate expert to create expert answer 130, once responses are received from experts willing to provide expert answer 130.

DEPR:

In order to select from among many experts responding to end user request 120, bidding protocols can be used in which the expert has an expert profile 155 that is used to decide which end user requests 120 will be accepted or rejected. Expert profile 155 includes automatic bid amounts, minimum completion times, or automatic acceptances for high priced end user requests 120. For example, when end user request 120 is sent to the expert, central controller 200 automatically submits a bid or rejection based on expert profile 155.

DEPR:

End user profile 150 may contain bidding rules as well, such as excluding bids above or below a predetermined amount. The end user can also specify that he only wants experts willing to negotiate the price for responses, or that the experts must engage in an active bidding session in order to get his business.

DEPR:

FIG. 30 shows a bidding embodiment where the end user creates end user request 120 that includes a requirement that the experts bid on the response. The end user then decides which expert to use based on the expert's bids. A higher bid could mean that the expert is more qualified to respond or that the expert will provide a higher quality response. At step 3000, the end user creates end user request 120. At step 3010 end user request 120 and bid request 160 are transmitted to the appropriate experts using those methods described in earlier embodiments. In the asynchronous communications embodiment, for example, the end user transmits end user request 120 at step 650.

DEPR:

Each expert then has an opportunity to bid on or reject the end user's end user request 120 at step 3020. If the expert rejects end user request 120, notification is sent to central controller 200 at step 3030. If the expert chooses to bid on end user request 120, the bid offer 165 is sent to central controller 200 to be combined with bid offers 165 from other experts at step 3040. Central controller 200 then sends bid offers 165 to the end user at step 3050. At step 3060, the end user chooses from among bid offers 165 and selects an expert to answer end user request 120. The end user's choice is then transmitted to central controller 200 and the expert is notified of acceptance at step 3070. Alternatively, the end user instructs central controller 200 to automatically accept the lowest bid offer 165, highest bid offer 165, or any bid offer 165 that satisfies attached criteria 117 or end user profile 150. The end user, therefore, does not need to be directly involved in the bidding at all.

DEPR:

In the above procedure, the expert is directly involved in the bidding process. In an alternative embodiment, the expert's profile 155 is stored in expert database 255. Based on expert profile 155, central controller 200 automatically directs the bidding process. For example, a lawyer might establish expert profile 155 which automatically bids two hundred dollars for any end user request 120 regarding wills, except for those requiring completion in two hours or less.

DEPR:

FIG. 31 shows an auctioning embodiment where the end users create end user requests 120 and submit them to central controller 200 as shown at steps 3100 and 3110. End user requests 120 are sent to a pool of qualified experts who simultaneously submit bid offers 165 on end user request 120 at step 3120. There may be a number of auction rounds (known as a repeated auction) in which experts have a chance to submit new bid offers 165. This contrasts with the one-shot auction described in FIG. 30, where there is only one round of bidding. Each expert sees his bid offer 165 as well as the other experts' bid offers 165. In this way, end user request 120 is auctioned off to the lowest bidder. Once the lowest bid offer 165 is determined at step 3130, the end user is notified of the bid offer 165 at step 3140.

DEPR:

FIG. 32 shows a bidding embodiment where the end user is bidding for an

expert's time. If an end user needed a level 6 patent lawyer for example, he may be faced with a supply and demand imbalance if there are only four or five in the whole country. Since these lawyers may only be able to reply to one end user request 120 a day, the end users may have to bid for the experts' attention. When the expert logs into the system, letters of interest from users are transmitted to expert interface 400. These letters of interest are communications which describe the specific expert that the end user wants, as well as a bid for his services. The expert transmits a message to central controller 200 to find the highest end user bid offer 165 and retrieves the end user's end user request 120.

DEPR:

At step 3200, the end user submits a letter of interest to central controller 200 that includes criteria 117 and starting bid offer 165. At step 3210 central controller 200 searches to find matching experts in expert qualifications database 285 and submits a message to each expert who qualifies at step 3220. The expert automatically receives a list of end users and their letters of interest from central controller 200 at step 3230. At step 3240, the expert can either choose to respond to the letter of interest directly at step 3250 (based on initial bid offer 165) or send central controller 200 a bid request 160 at step 3260.

DEPR:

The end user bid offers 165 are transmitted back to the experts via central controller 200 at step 3270. The process continues at step 3240 with the expert choosing to either accept end user bid offer 165 or ask for new end user bid offers 165. In this way, the expert maximizes his earnings while the end user has access to highly recruited experts.

DEPR:

At step 3350, the end user can either decide to increase the amount of bid offer 165, or modify end user request 120 to see if he can reduce the cost. In either case, the end user resubmits end user request 120 at 3310. This iterative negotiation process continues until the end user either accepts the expert's terms or decides to retract end user request 120.

DEPR:

Although the bidding systems described above are based on price, alternative systems can be based on response time, quality of expert answer 130, whether the expert is willing to contact the end user directly, how many follow up end user requests 120 would be accepted, etc. The end user specifies which type of bidding is desired and central controller 200 makes the appropriate adjustments to bid request 160.

DEPR:

The above auction protocols are meant to be illustrative, and do not represent all of the possible protocols. If the end user is seeking multiple expert answers 130 to a given end user request 120, for example, there are auction protocols to handle the additional complexity. A uniform auction, for example, sells each opportunity for expert answer 130 at the second-highest bid. Other formats such as "Dutch" auctions are equally applicable.

DEPR:

The bidding process can be used with any of the previously described embodiments, using either an asynchronous or synchronous communications embodiment.

CLPR:

54. The apparatus of claim 1, further comprising means for transmitting a bid from an end user to an expert.

CLPR:

55. The apparatus of claim 54, further comprising means for anonymous transmission of a bid from an expert to an end user.

CLPR:

68. The apparatus of claims 1 or 67, further comprising means for receiving a bid from an end user.

CLPR:

69. The apparatus of claims 1 or 67, further comprising means for transmitting a bid to an end user.

CLPR:

70. The apparatus of claims 1 or 67, further comprising means for receiving a bid from an expert.

CLPR:

71. The apparatus of claims 1 or 67, further comprising means for transmitting a bid to an expert.

CLPR:

73. The apparatus of claim 67, wherein the price establishing means includes a margin comparator for determining when a price bid transmitted by an expert is equal to or less than a payment rate submitted by the end user.

CLPR:

74. The apparatus of claim 73, wherein the margin comparator selects the price bid based on margin size.

CLPR:

144. The method of claim 121, further comprising the step of transmitting a price bid from an expert to an end user.

CLPR:

145. The method of claim 144, further comprising the step of anonymously transmitting the price bid from an expert to an end user.

CLPR:

152. The method of claim 150, further comprising the step of receiving price bids from experts.

CLPR:

155. The method of claim 154, further comprising the step of receiving at least one bid at the controller unit.

CLPR:

156. The method of claim 150, further comprising the step of transmitting a bid from the controller unit to the expert.

CLPR:

157. The method of claim 150, further comprising the step of transmitting a bid from the expert to the end user.

CLPR:

192. The apparatus of claim 178, wherein the transceiver is configured to receive a bid from the end user and transmit the bid to the selected expert.

CLPR:

197. The apparatus of claim 177, wherein the controller is configured to establish said price using a margin comparator configured for determining when a price bid transmitted by the selected expert is equal to or less than a payment rate submitted by the end user.

CLPR:

198. The apparatus of claim 197, wherein the margin comparator is configured to select the price bid based on margin size.

CLPV:

means for receiving a bid from an expert;

CLPV:

means for transmitting the expert bid to the end user; and

CLPV:

means for receiving an acceptance of the expert bid from an end user.

CLPV:

establishing a price by determining when a price bid transmitted by an expert is equal to or less than a payment rate submitted by the end user; and

CLPV:

selecting a price bid based on the margin of size between the payment rate submitted by the end user and the price bid.

CLPV:

transmitting a bid to at least one of the expert and end user; and

ORPL:

Esther Dyson, "Information, Bid and Asked," Forbes, Aug. 20, 1990.